AMENDMENT UNDER 37 C.F.R. 1.116

EXPEDITED PROCEDURE

EXAMINING GROUP 2177

PATENT

Serial No. 09/867,803

Attorney Docket No. 1005-006

REMARKS

Primary Examiner Pham is thanked for the courtesies extended during the telephonic interview on 22 April 2004, during which the subject matter of claim 3 was discussed.

The Examiner is further thanked for indicating that claims 3 and 4 would be allowable if rewritten to overcome the objection set forth in section 2 of the Office Action and rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reconsideration of this application is respectfully requested in light of the foregoing amendments and the following remarks.

Claim 3 was amended to explicitly present one or more elements implicit in the claim as originally written when viewed in light of the specification, and thereby does not narrow the scope of the claim.

Claims 1-8 are now pending in this application. Claims 1, 2, and 5-8 are the independent claims.

I. The Objection to Claim 3

Claim 3 was objected to because of an informality. Via the amendment of claim 3, Applicants respectfully submit that any grounds for this objection have been eliminated, and respectfully request acknowledgment thereof.

II. The Anticipation Rejections

Claims 1-2 and 5-8 were rejected as anticipated under 35 U.S.C. §102(e). In support of these rejections, Fayyad (U.S. Patent No. 6,633,882) was cited. These rejections are respectfully traversed.

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Fayyad fails to establish a *prima facie* case of anticipation. See MPEP 2131. To anticipate expressly, the "invention must have been known to the art in the detail of the claim; that is, all of the elements and limitations of the claim must be shown in a single prior art reference, arranged as in the claim". *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383, 58 USPQ2d 1286, 1291 (Fed. Cir. 2001). The single reference must describe the claimed subject matter "with sufficient clarity and detail to establish that the subject matter existed in the prior art and that its existence was recognized by persons of ordinary skill in the field of the invention". *Crown Operations Int'l, LTD v. Solutia Inc.*, 289 F.3d 1367, 1375, 62 USPQ2d 1917, 1921 (Fed. Cir. 2002). Moreover, the prior art reference must be sufficient to enable one with ordinary skill in the art to practice the claimed invention. *In re Borst*, 345 F.2d 851, 855, 145 USPQ 554, 557 (C.C.P.A. 1965), *cert. denied*, 382 U.S. 973 (1966); *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1354 (Fed. Cir. Jan. 6, 2003) ("A claimed invention cannot be anticipated by a prior art reference if the allegedly anticipatory disclosures cited as prior art are not enabled").

Fayyad allegedly recites an "[a]pparatus and method for use in querying a database containing data records. The database is characterized by a compression scheme to provide data clustering information. In accordance with a exemplary embodiment of the invention a functional representation of data clustering is a **Gaussian** and the queries are performing by integrating the Gaussian corresponding to each of the data clusters over the ranges to determine the sum or the count of data records from the database that fall within the selected ranges. The process chooses a value for the cluster number K. The cluster model is next broken up into areas (tiles) based on user defined parameters. Data from the database is then classified based on the tiling information. A sorted version of the classified data, ordered by cluster number and then by the tile number

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within the cluster is generated. This data is then evaluated to test the sufficiency of the model created during the clustering. " See Abstract.

Also, Fayyad allegedly recites that an "exemplary embodiment of the invention starts with one cluster having an arbitrarily assigned **mean** or centroid for each dimension of data within the database. This one cluster is selected without accessing the data in the database. Using this starting point data is retrieved or read from the database and a cluster model is built from the data using the single starting cluster." See Fayyad's Summary of the Invention, col. 3, lines 50-54.

Fayyad allegedly recites that "[i]n accordance with the exemplary embodiment of the present invention, the number of clusters K is determined by an iterative process that is summarized in FIG. 7.... Once this initialization step 100 is performed, the scalable clustering procedure that uses the E-M, **K-Means** or other suitable clustering process is performed until a stopping point 140 is reached." See col. 8, lines 1-9.

Further, Fayyad allegedly recites that "[w]hen used with the scalable clustering process of FIG. 3, the initialization process of FIG. 7 selects a starting cluster number, K and determines a starting point for the **means** or centroids of the K clusters". Col. 8, lines 10-13.

Fayyad allegedly recites that the "FIG. 7 process operates by identifying areas (partitions) of multidimensional space that have a higher or lower **density** of points than is predicted by a current cluster model. The current model is then further refined by growing new clusters in the areas of low or high density so that the new model better fits the data. This improves the density estimation of the clustering and hence improves the accuracy of queries answered using the clustering model." Col. 10, lines 16-24.

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Finally, Fayyad allegedly recites that a "number of accuracy parameters are used to control the clustering initialization process of FIG. 7." See col. 9, lines 64-65. "An accuracy parameter (TileAccuracy)" "is the percentage by which the number of points in a tile is allowed to **deviate from the expected value** (Tile Accuracy)." See col. 10, lines 3-6. "An additional accuracy parameter is the **probability** (as a percentage) of a tile satisfying the accuracy criterion. This percentage (TilePercentage) is the number of tiles of the total number that must satisfy the accuracy criterion for the model to be judged acceptable." See col. 10, lines 6-11.

Claims 1, 5, and 6

Contrary to Fayyad, claims 1, 5, and 6 recite "calculating a percent of proxy values for the plurality of variables that equals a **mode** of that observation's corresponding cluster's proxy values".

As evidenced by the attached 37 CFR § 1.132 Declaration of Dr. Bo Honore, one skilled in the art would find that Fayyad fails to establish a prima facie case of anticipation because Fayyad does not teach expressly or inherently "calculating a percent of proxy values for the plurality of variables that equals a **mode** of that observation's corresponding cluster's proxy values". According to Dr. Honore, one of ordinary skill in the art would recognize that a **"mode" is the "value or item occurring most frequently in a series of observations or statistical data."** Moreover, Dr. Honore's Declaration establishes that Fayyad does not teach any "mode" whatsoever. Accordingly, it is respectfully submitted that the rejection of claims 1, 5, and 6 is unsupported by Fayyad and should be withdrawn.

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Claims 2, 7, and 8

Contrary to Fayyad, claims 2, 7, and 8 recite "estimating a **purposeful probability**". The phrase "purposeful probability" is **defined** in the current application at page 25, line 14 through page 26, line 1. Specifically, "[f]or a question, k that has L_k possible answers, the probability (also known as "purposeful probability") that answer value ℓ is selected by observations (e.g. survey respondents) in segment m is estimated by

$$\hat{P}_m(k, \ell) = \frac{N_m(k, \ell)}{N_m}(1 - \delta \langle L_k \rangle) + \delta \qquad (2)$$

where

N_m = total number of observations in segment m

$N_m(k, \ell)$ = the number of observations in segment m that gives the ℓ -th answer to question k

$$\delta = min \left\{ 0.02, \frac{1}{2L} \right\}$$"

As explained at MPEP 2111.01, the words of a claim must be given their plain meaning **unless** they are defined in the specification. Here, the term "purposeful probability" clearly has been defined in the specification, and that definition must control examination of those claims that recite this term.

As evidenced by the attached 37 CFR § 1.132 Declaration of Dr. Bo Honore, one skilled in the art would find that Fayyad fails to establish a prima facie case of anticipation because Fayyad does not teach expressly or inherently "estimating a **purposeful** probability".

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Accordingly, it is respectfully submitted that the rejection of claims 2, 7, and 8 is unsupported by Fayyad and should be withdrawn.

CONCLUSION

It is respectfully submitted that, in view of the foregoing amendments and remarks, the application as amended is in clear condition for allowance. Reconsideration, withdrawal of all grounds of rejection, and issuance of a Notice of Allowance are earnestly solicited.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. §1.16 or §1.17 to Deposit Account No. 50-2504. The Examiner is invited to contact the undersigned at 434-972-9988 to discuss any matter regarding this application.

Respectfully submitted,

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